

Date: Mon, 21 Feb 94 04:30:25 PST
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@UCSD.Edu
Reply-To: Ham-Homebrew@UCSD.Edu
Precedence: Bulk
Subject: Ham-Homebrew Digest V94 #37
To: Ham-Homebrew

Ham-Homebrew Digest Mon, 21 Feb 94 Volume 94 : Issue 37

Today's Topics:

 Homemade balun, unknown toroid material. Help!
 One more question!!!!!!!
 What test equipment do you use? (2 msgs)

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Sun, 20 Feb 1994 16:29:46 GMT
From: agate!usenet.ins.cwru.edu!gatech!wa4mei.ping.com!ke4zv!gary@network.ucsd.edu
Subject: Homemade balun, unknown toroid material. Help!
To: ham-homebrew@ucsd.edu

In article <1994Feb20.012646.1@ntuvax.ntu.ac.sg> asirene@ntuvax.ntu.ac.sg writes:
> I just made a 1:1 current balun for use at the feed point of my 20 meter
dipole
>fed from a RG-58. The problem us is that the toroid I used was unmarked so I do
not know the
>actual effect of the "balun". Is there a way to test the balun? Or should I
eliminate it
>altogether. What kind of effect will the balun (with ot without) have on my
transmission
>and reception?

A balun's purpose is to transform an unbalanced feed to a balanced load,
or vice versa. What it really buys you is keeping RF current off the shield
of coaxial feeders. This can distort your antenna pattern because the shield
of the coax acts as an additional unwanted radiating element.

How to test. You need a "sniffer" to detect currents on the outside of the coax shield. A simple sniffer is a loop of wire soldered to a pilot lamp. While transmitting, run the loop up and down the coax (loop plane parallel to the coax). If the bulb lights, the balun isn't doing it's job. You can make this more sensitive by using a loop tuned to the transmitter frequency (series resonant). Electrically shielding the loop will allow it to respond only to the H field from the coax.

In most cases, with simple dipoles, a balun is a waste of time and money. Sometimes it helps, but those cases are so installation dependent that on the air testing is the only real way to determine if it's doing you any good. (Radiation from the coax can sometimes be *helpful* in making contacts under certain conditions, like when the other station is off the end of your dipole.)

Gary

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Gary Coffman KE4ZV		You make it,		gatech!wa4mei!ke4zv!gary
Destructive Testing Systems		we break it.		uunet!rsiatl!ke4zv!gary
534 Shannon Way		Guaranteed!		emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244				

Date: 20 Feb 94 14:38:39 GMT
From: agate!news.Brown.EDU!noc.near.net!news.delphi.com!BIX.com!
aog@network.ucsd.edu
Subject: One more question!!!!!!
To: ham-homebrew@ucsd.edu

fsrla@aurora.alaska.edu writes:

>Thanks to all those who've replied to
>my posts....

>Getting conflicting reports on the wire
>for winding coils, though. So, let's
>apply this to my "real-life" situation, here.

>I'm building a simple (or so I thought)
>reciever for 15-Mhz. It calls for a
>coil with 26 turns of #24 enamel wire.
>I solved on problem, I've found the
>enameled wire! YAY! However, our radio
>shack only carries size #22 then goes to
>#26. No #24 at all, and quote the
>salesman, "We don't carry it 'cause

>it's, uhhh, to small." Exact quote, no fib!

>So, will either of these sizes work, what would
>I have to change? Or do I need to find a catalog
>for people who carry this?

>Thanks for the help!!!!

>Roger Asbury WL7NT
>FSRLA@Aurora.alaska.edu

The inductance of a coil is a function of its length and cross-section area for a constant number of turns.

If you keep the length of the coil the same, then there will be no impact on the impedance by using wire that is two wire-sizes smaller. There will be some small reduction in its Q from the slightly higher resistance.

.....
Alan Ogden, w6spk
Moderator of ham.radio at BIX
arog@BIX.com

Date: Sat, 19 Feb 1994 03:36:16 GMT
From: ucsnews!sol.ctr.columbia.edu!usc!sdd.hp.com!col.hp.com!srngenprp!
alanb@network.ucsd.edu
Subject: What test equipment do you use?
To: ham-homebrew@ucsd.edu

Scott Dorsey (kludge@grissom.larc.nasa.gov) wrote:

: Personally I find digital oscilloscopes a pain in the neck for most things.
: For non-repetitive waveforms, and finding just that one pulse, they are
: wonderful, and for digital work they are very useful. For radio stuff,
: though, I'd rather just have a good storage scope, and good storage scopes
: turn up cheaply on the surplus market now and then.

Have you ever used an HP546XX-series scope? I, like you, was a dyed-in-the-wool digital oscilloscope hater until I used one of those. I liked it so much I bought one for home (at employee discount :=). They did a really great job of making it "look and feel" just like an analog scope while retaining the advantages of a digital scope.

AL N1AL
(No, I don't get a commission :=)

Date: Sun, 20 Feb 1994 16:13:04 GMT
From: agate!howland.reston.ans.net!gatech!wa4mei.ping.com!ke4zv!
gary@network.ucsd.edu
Subject: What test equipment do you use?
To: ham-homebrew@ucsd.edu

In article <CLFFLF.G3v@hpmoca.sqf.hp.com> dstock@hpmoca.sqf.hp.com (David Stockton) writes:

> TDR (Time Domain Reflectometer) Well, it was on this stall at a
>rally, and the bloke wanted 35 pounds, it proved 100% working when I got
>it home. This device is best described as an in-cable radar set, used
>to test transmission lines and connectors. It fires a pulse down the
>line and plots a trace of reflection voltage versus time so you can
>measure exactly how bad a mismatch is, and measure just how far down the
>line it is. It's nice to know I've got one, should I ever need it, but I
>must confess I've not (yet) used it in anger. The name alone frightens
>people, they seem to always be sold at "for the parts" prices. If people
>stick pins in your co-ax, then you NEED one of these...

Use this *now* David. Take scope pictures of all your antennas while
they're working. You can then pulse the line anytime you wonder if
something has gone sour. If the traces don't match, it has. Otherwise
you've saved yourself a trip up the tower.

Gary

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End of Ham-Homebrew Digest V94 #37
